QUESTION 14 – WATER

See State Comprehensive Plan (Chapter 187, F.S.)

GOAL (6); POLICY (19)
GOAL (8); POLICIES (2),(4),(6),(7),(8),(10),(12)
GOAL (10); POLICIES (1),(8)
GOAL (16); POLICY (6)
GOAL (22); POLICY (3)

A. Describe the existing hydrologic conditions (both ground and surface water)on and abutting the site, including identification and discussion of any potential aquifer recharge areas. Please identify and describe any Outstanding Florida Waters, Wild and Scenic Rivers, Florida Aquatic Preserves or Florida Class I or II Waters that occur within, abutting or downstream of the site.

1. Ground Water

The project is underlain by the Biscayne Aquifer. The Biscayne Aquifer is approximately 180 feet thick in the vicinity of the project and is unconfined. The Biscayne Aquifer is composed of the Fort Thompson formation, the Tamiami formation and the Anastasia formation (Geology of the Surficial Aquifer System, Broward County, Florida, 1985).

Seasonal and tidal fluctuation of the groundwater table is typically less than two feet in the vicinity of the project. Based on the Broward County Soil Survey, the water table in the mapped soils is at a depth of less than 40 inches for most of the year. Based on this information the water table at the site will generally be encountered within the upper four feet of the existing subsurface, and the seasonal high groundwater could be within one foot of the existing grade. Regional groundwater flow in South Florida is generally east-southeast toward the Atlantic Ocean; however, due to the flat topography, local groundwater flow may be influenced by local features, i.e., lakes, canals, etc.

The Biscayne aquifer system is recharged primarily by rainfall percolating through the thin sandy mantle to the water table.

2. Surface Water

The property is located within the Hillsboro Canal Basin. The Hillsboro Canal Basin generally covers the area of northern Broward County and southern Palm Beach County, and is controlled by the SFWMD pump station S-39, generally located at the southwest corner of Palm Beach County. The drainage system serving the area is composed of a system of interconnected lakes and

canals that discharge through the S-39 pump. The property contains several agricultural ditches which drain to the wetland to the north of the site and a canal along Cullum Road, with ultimate discharge to the Hillsboro Canal.

The project is not located in any potential aquifer recharge areas, Outstanding Florida Waters, Wild and Scenic Rivers, Florida Aquatic Preserve, or Class I or II waters of the State.

B. Describe, in terms of appropriate water quality parameters, the existing ground and surface water quality conditions on and abutting the site.(The appropriate parameters and methodology should be agreed to by the regional planning council and other reviewing agencies at the pre-application conference stage.)

1. Ground Water

No groundwater data were collected during the current investigation, because the applicant intends to obtain its water supply from the City of Coconut Creek.

2. Surface Water

Surface water quality data was obtained from Broward County EPD, Water Resources Division. The data obtained is from Broward County's quarterly canal data for the Hillsboro Canal. There is one Surface water monitoring site in the vicinity of the project, to the northeast. The site location is as follows:

- **Site 3: Hillsboro Canal; Hillsboro Blvd and SR 7 – Freshwater**

The data provided is from 1989 through 1997. The data collected is for the following parameters: biochemical oxygen demand, fecal coliform, total coliform, conductivity, ammonia, nitrite+nitrate, dissolved oxygen, pH, salinity, fecal streptococcus, temperature, total Kjeldahl nitrogen, total organic carbon, total phosphorus, turbidity, total inorganic nitrogen. Data was compared to Broward County Water Quality Standards (Article V, Section 27-195). Based on the data for Site 3 the following trends were observed: dissolved oxygen was low and total phosphorus and ammonia were high. This data is characteristic of drainage systems in the project vicinity.

C. Describe the measures which will be used to mitigate (or avoid where possible potential adverse effects upon ground and surface water quality, including any resources identified in Sub question A).

1. Ground Water

Ground water to be used by the project is regulated by the SFWMD through a Consumptive Use Permit. The appropriate permitting steps will be taken prior to development. Potable water will be provided by the City of Coconut Creek.

The applicant will use stormwater for irrigation and common areas as much as possible and will accept reuse water if and when it is available, and economically feasible.

2. <u>Surface Water</u>

The applicant will use appropriate erosion, sedimentation, and siltation prevention and protection measures. Engineering plans will include erosion and and sedimentation control procedures during construction to ensure that: 1) erosion/sedimentation control devices are in place and are maintained; and 2) best management practices (BMPs) are followed to protect the adjacent canals and wetland areas.

BMPs to be used include the following:

- **Surface water run-off from exposed areas during construction will be routed to retention areas, swales, and/or ditches where the water can be treated to control discharges and meet state water quality criteria.**
- **Exposed areas will be grassed as soon as possible to stabilize the soil.**